

REMARKS

Claims 1-5 and 7-11 were pending and presented for examination in this application. In an Office Action dated May 1, 2006, claims 1-5 and 7-11 were rejected. Applicant thanks Examiner for examination of the claims pending in this application and address Examiner's comments below.

Applicant has amended paragraphs [0021]-[0022] to correct an obvious typographical error and references in the specification.

Applicant has amended claims 1, canceled claim 11, and added claims 13-16 in this Amendment. Support for these changes may be found at, for example, paragraphs [0016]-[0017], and Figures 3-4 (and associated description) of the specification. These changes are believed not to introduce new matter, and their entry is respectfully requested. On the basis of the following remarks, Applicant respectfully requests that Examiner reconsider all outstanding rejections, and withdraw them.

The Examiner rejected claims 1-5 and 7-11 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,105,662 to Suzuki in view of U.S. Patent No. 6,704,196 to Rodriguez et. al., either alone or in combination with other references. Examiner also commented extensively on U.S. Patent No. 5,418,018 to Lo in the Office Action. Applicant respectfully submits that the references, alone or in combination, do not disclose or suggest the claimed invention as amended.

Claim 1 recites an apparatus for cooling a computer that includes several elements for transferring and dissipating heat in a computer chassis, including a conductive base plate, heat conductor, heat sink, and fan. The apparatus includes a housing adapted to substantially enclose two of these elements – the heat sink and the fan – that can be installed adjacent to a window in

the chassis through which airflow can be directed. Claims 13 and 16 contain similar housing elements. As Claim 14 makes clear, the housing can be configured to snap over the heat sink and fan to secure these elements to the chassis.

Beneficially, having a common housing for the heat sink and fan simplifies installation of these elements, which can be placed into the housing outside of the confines of the chassis, and then secured as part of the housing to the chassis. This is particularly useful in the case of form factor computers in which interior real estate is limited. Having a casing for the cooling elements also affords easier access to components that may be installed beneath the cooling apparatus. For instance, in a configuration that includes the housing, heat sink and fan placed over a CPU, a user can access the CPU without necessarily having to detach and reattach each cooling element separately. This feature reduces the effort required to replace or access the CPU, an often upgraded element.

Contrary to Examiner's assertion in the office action, Suzuki does not disclose the claimed "housing". The specific element that Examiner refers to in his rejection to provide the claimed housing, element 46 of Figure 1, is actually not a housing at all, but merely a "place or location, 46 for holding the heat radiator". (Suzuki, 5:2-3) As Suzuki describes, this "holding place 46 is selected as a portion along the outer circumference, or periphery of the housing 30". (Suzuki, 5:4-6) Accordingly, Suzuki's "holding place 46" is not a housing that can fit over a fan and heat sink or that can be secured to a housing. It is merely a location in Suzuki's housing, not a physical component in it. As such, Suzuki is fundamentally different than the claimed invention, which is not suggested or disclosed by this reference.

Neither Rodriguez or Lo can remedy this defect. Rodriguez fails to disclose the claimed housing for substantially enclosing a heat sink and fan, as implicitly acknowledged by the

Examiner. Lo is similarly deficient. Lo discloses a heat removal system that includes a heat sink 50 mounted directly to a fan 30 (Lo, Figure 2, Abstract). But rather than include a housing for the fan and heat sink, as claimed, Lo discloses that “the fan 30 is attached to the inner face of the power supply 20.” (Lo, 2:4-6) Lo’s heatsink, unhoused, then attaches directly to the fan. (Lo, Figure 2) This results in a more difficult installation process than the claimed invention.

New Claim 15 is also patentable over the cited references. Claim 15 recites an apparatus for cooling components stored in a single, unpartitioned chamber in a chassis that includes a fan for drawing air over a heat sink and power supply. Examiner admits that such an airflow is absent from Suzuki. (Office Action, ¶2) Neither is it supplied by Lo, or by Rodriguez, which discloses cooling of components stored in multiple chambers separated by floor-to-ceiling walls. (Rodriguez, Abstract, Figure 1) This approach relies on the partitioning of the chassis interior to effect airflow over the various components. This does not teach or suggest the claimed invention which operates in a different way, through the claimed elements, to achieve a different result – the cooling of a CPU and power supply stored in a single, unpartitioned chamber. Claim 15 also recites a “second window in the chassis installed perpendicular to the first window”. This configuration of windows permits airflow to cool components stored along both the length and width of the chassis, and is not disclosed or suggested by any of the cited references.

The other references cited in the Office Action were cited for their disclosure of dependent limitations. Accordingly, these references do not address the distinguishing limitations discussed above.

For at least the reasons discussed above, Applicant respectfully submits that the pending claims are patentably distinguishable over the cited references (including references cited, but not applied). Consideration of this application and these remarks, and the early allowance of all

claims herein are requested. If the Examiner believes that direct contact with the Applicant's attorney will advance the prosecution of this case, the Examiner is encouraged to contact the undersigned as indicated below.

Respectfully submitted,
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